

LISTING OF CLAIMS

Claim 1 (Currently Amended): Process for reducing the coking on the metal walls of a reactor for the cracking of hydrocarbons or of other organic compounds and on the metal walls of a heat exchanger placed subsequent to the cracking reactor, comprising the metal surfaces coming into contact with the organic substance to be cracked are pretreated with a stream of steam comprising at least one non-sulphur-containing silicon compound and at least one non-silicon-containing sulphur compound at a temperature of between 300 and 1100°C for a time of 0.5 to 12 hours, wherein the at least one non-silicon-containing sulphur compound is carbon disulphide or a compound of formula R¹-Sx-R² in which R¹ and R², which are identical or different, each represent a hydrogen atom or a hydrocarbonaceous group and x is a number equal to or greater than 1.

Claim 2 (Previously Presented): Process according to Claim 1, wherein the pretreatment of the cracking reactor is carried out at a temperature of between 750 and 1050°C.

Claim 3 (Previously Presented): Process according to Claim 1, wherein the pretreatment of the heat exchanger placed subsequent to the cracking reactor is carried out at a temperature of between 400 and 700°C.

Claim 4 (Previously Presented): Process according to Claim 1, wherein the pretreatment is carried out for a time of 1 to 6 hours.

Claim 5 (Previously Presented): Process according to Claim 1, wherein the steam used as carrier fluid additionally comprises an inert gas.

Claim 6 (Previously Presented): Process according to Claim 1, wherein use is made, as the non-sulphur-containing silicon compound, of a compound comprising only silicon, carbon, hydrogen and, optionally, oxygen.

Claim 7 (Previously Presented): Process according to Claim 1, wherein the non-sulphur-containing silicon compound is hexamethyldisiloxane.

Claim 8 (Canceled)

Claim 9 (Previously Presented): Process according to Claim 1, wherein the non-silicon-containing sulphur compound is dimethyl disulphide.

Claim 10 (Previously Presented): Process according to Claim 1, wherein the Si:S atomic ratio is between 5:1 and 1:5, preferably between 2:1 and 1:2.

Claim 11 (Previously Presented): Process according to Claim 1, wherein the concentration by mass of sulphur and silyl additives in the carrier fluid is between 50 and 5000 ppm, preferably between 100 and 3000 ppm.

Claim 12 (Previously Presented): Process according to Claim 1, wherein the pressure varies between 1 and 20 bar absolute, preferably between 1 and 5 bar absolute.

Claim 13 (Previously Presented): Process according to Claim 1, wherein after the pretreatment, a sulphur compound and/or a silyl compound are added to the feedstock of the organic compound to be cracked.

Claim 14 (Previously Presented): Process according to Claim 13, wherein the sulphur compound is dimethyl disulphide.

Claim 15 (Previously Presented): Process according to Claim 13, wherein the silyl compound is hexamethyldisiloxane.

Claim 16 (Previously Presented): Process according to Claim 13, wherein the Si:S atomic ratio does not exceed 2:1 and is preferably less than or equal to 1:2.

Claim 17 (Previously Presented): Process according to Claim 13, wherein there is added, to a feedstock of organic compound to be cracked comprising sulphur, a silyl compound in an amount such that the Si:S atomic ratio does not exceed 2:1, and that the concentration of silicon does not exceed 500 ppm.

Claim 18 (Previously Presented): Process according to Claim 13, wherein the concentration by mass of sulphur in the organic compound to be cracked is between 10 and 1000 ppm.

Claim 19 (Previously Presented): Process according to Claim 10, wherein the ratio is between 2:1 and 1:2.

Claim 20 (Previously Presented): Process according to Claim 11, wherein the concentration is between 100 and 3000 ppm.

Claim 21 (Previously Presented): Process according to Claim 12, wherein the pressure is between 1 and 5 bar absolute.

Claim 22 (Previously Presented): Process according to Claim 16, wherein the ratio is less than or equal to 1:2.

Claim 23 (Previously Presented): Process according to Claim 17, wherein the ratio is less than or equal to 1:2.

Claim 24 (Previously Presented): Process according to Claim 18, wherein the concentration is between 20 and 300 ppm.